

STORMWATER MANAGMENT
COST ESTIMATE

BMP # 1

(TYPE DESCRIPTION HERE)

ID #

(AS ASSIGNED BY COUNTY)

COST \$

BMP # 2

ID #

COST \$

BMP # 3

ID #

COST \$

LUMP SUM \$

CONSTRUCTION NOTES

1. DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE COUNTY OF ROANOKE STORMWATER MANAGEMENT ORDINANCE AND DESIGN MANUAL, LATEST ADDITION.
2. BASIN SIDE SLOPES SHALL BE NO GREATER THAN 3 TO 1 (HORIZONTAL TO VERTICAL) WITH A MAXIMUM DEPTH OF 15' AS MEASURED FROM TOP OF THE EMBANKMENT TO THE LOWEST POINT IN THE BASIN.
3. THE MINIMUM TOP WIDTH OF THE EMBANKMENT SHALL BE 10 FEET.
4. EMBANKMENTS WITH AN EMERGENCY SPILLWAY SHALL HAVE ONE FOOT MINIMUM FREEBOARD FROM THE 100 YEAR WATER SURFACE ELEVATION. EMBANKMENTS WITH NO EMERGENCY SPILLWAY SHALL PROVIDE 2 FEET OF FREEBOARD.
5. ALL OUTLET STRUCTURES SHALL BE EQUIPPED WITH APPROPRIATE TRASH RACK.
6. ON-SITE FILL MATERIAL OR BORROW FILL MATERIAL MAY BE UTILIZED IN ACCORDANCE WITH VIRGINIA STORMWATER MANAGEMENT HANDBOOK (VSMH) SEC 3.01. FILL MATERIAL SOILS, IN GENERAL:

* SHALL BE COMPACTIBLE

* SHALL BE WITHIN AN ACCEPTABLE RANGE OF MOISTURE CONTENT WHICH IS READILY CONTROLLED

* SHALL NOT BE HIGHLY SUSCEPTIBLE TO VOLUME CHANGE (SHRINKAGE OR SWELL) OR SETTLEMENT
7. FILL MATERIALS CONTAINING ROCKS LARGER THAN SIX (6) INCHES (15.2 CM) SHALL NOT BE USED. THE UPPERMOST TWO (2) FEET (61 CM) SHALL NOT HAVE ANY ROCK LARGER THAN TWO (2) INCHES (5.1 CM) IN DIAMETER.
8. THE APPROVED FILL SHALL BE PLACED IN EIGHT (8) INCH (20 CM) LOOSE LIFTS. EACH LIFT SHALL BE SPREAD IN UNIFORM LAYERS. FILL SOIL SHALL BE UTILIZED ONLY WITHIN A MOISTURE RANGE OF +/- 2% OF THE OPTIMUM MOISTURE CONTENT. COMPACTION OF THE FILL SHALL BE PERFORMED WITH APPROVED EQUIPMENT. COMPACTION OF THE LAYERS SHALL BE CONTINUOUS AND UNIFORM.
9. EMBANKMENT MATERIAL IN FILL AREAS SHALL BE PLACED IN LIFTS NOT EXCEEDING EIGHT (8) INCHES AND SHALL BE COMPACTED TO A MINIMUM 95% DENSITY IN ACCORDANCE WITH SECTION 303 OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS. CUTOFF TRENCH AND CORE MATERIAL SHALL BE CONSTRUCTED IN ACCORDANCE WITH VSMH SEC 3.01.
10. FIELD DENSITY TESTS ARE TO BE CONDUCTED BY AN INDEPENDENT SOILS TESTING LABORATORY UNDER THE DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER. THE RESULTS OF THESE TESTS SHALL BE SUBMITTED TO THE COUNTY OF ROANOKE WITH AS-BUILT PLANS AS A CONDITION OF ACCEPTANCE OF THE PROJECT BY THE COUNTY. FIELD DENSITY TESTS, AS DIRECTED BY THE ENGINEER SHALL BE PERFORMED PERIODICALLY TO DETERMINE THE DEGREE OF COMPACTION. ANY AREAS FAILING TO MEET THE ABOVE REQUIREMENTS SHALL BE REWORKED AND/OR RECOMPACTED UNTIL THE REQUIRED DEGREE OF COMPACTION IS ACHIEVED.
11. ANTI-SEEP COLLARS OR FILTER DIAPHRAGMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), LATEST EDITION AND VSMH.
12. ALL DISTURBED AREAS SHALL BE COVERED WITH FOUR (4) INCHES OF TOPSOIL AND SEEDED.
13. THE PERMITTEE/OWNER SHALL CONTACT THE COUNTY OF ROANOKE FOR INSPECTION AND APPROVAL PRIOR TO CONVERTING ANY SEDIMENT TRAP AND/OR BASIN INTO A PERMANENT STORMWATER MANAGEMENT FACILITY.
14. PRIOR TO FINAL ACCEPTANCE AND BOND RELEASE OF THE PROJECT, THE PERMITTEE/OWNER SHALL SUBMIT TO THE COUNTY OF ROANOKE AS-BUILT DOCUMENTATION CONFIRMING THAT THE STORM DRAINAGE SYSTEM AND STORMWATER MANAGEMENT FACILITIES AND PRACTICES ARE IN CONFORMANCE WITH THE APPROVED PLANS. AS-BUILTS SHALL MEET THE REQUIREMENTS SET FORTH IN THE STORMWATER MANAGEMENT DESIGN MANUAL CHAPTER 15.

BMP DETAIL SHEET

COUNTY OF ROANOKE, VA.
Stormwater Management Details



SHEET
X
OF
X

Department of
Community Development

DATE: 03/18/08

SCALE: NO SCALE

DRAWING BY: SAJ/MTB

DESIGNED BY: T:IGIS/Special ProjectsRCGIS_2008_0019.SP

APPROVED BY: GWS/III

1 Community Development

2

3

4

5

6

NO.

REVISIONS

DATE